and

c.) approximately 0.5 to 2 parts by weight of pulverized paper;

d.) approximately 0.5 to 2 parts by weight of water.

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REMARKS

The Examiner has rejected claims 1- 20 as being obvious 35 U.S.C. 103(a) in light of Avotins et al (USP 5,464,465).

Avotins discloses the use of organic fibrous materials, where the fibrous materials are comprised at least in part of a polymer (Column 2, line 18), as a binder. The polymeric fibrous materials that Avotins describes all have acetonitrile. In the Background Of The Invention, Avotins teaches (Column 1, lines 53 - 63) away from the use of cellulosic fibers, because they are "too expensive".

"Organic polymeric materials, both natural and synthetic, such as cellulose pulp, wool fibers, rayon fibers, nylon fibers, and the like, have been used, see, for example, the above-mentioned Canadian Patent No. 1,002,761, but the quantity of the fibers exemplified, e.g., 1% by weight (20 lbs/ton) based on the ore makes, them too expensive to be a commercially attractive replacement for the inorganics."

Applicant's invention does not read on fibers as described by Avotins, and in light of the cited Background Of Invention, applicant traverses the 103 rejection.

Applicant is attaching an updated IDS for Pinder et al, Canadian Patent 1,002,761. Pinder'761 discloses the use of cellulose fibers, however, Pinder teaches the necessity for forming a slurry, and does not disclose the utility of the inclusion of a reductant.

The Examiner has rejected claims 1- 7, 10 - 16, 18, 19 and 20 as being obvious 35 U.S.C 103(a) in light of Crowe (USP 2,865,731).

As amended, Claim 1 now reads on a process for metallizing iron using an agglomerate that has all the constituents required to reduce iron oxide to iron. Claim 14 is amended to read on a process for forming green agglomerates, and new Claim 21 reads on a composition suitable for immediate use in a furnace, without induration. While Crowe does describe that cellulosic fibers make a binder, Crowe does not teach the utility of an agglomerate for furnaces where the agglomerate has a very low water content. In Column 2, line 40, partially dewatered pulped newspaper is kneaded with ore (hematite), resulting in a briquette having a high porosity. Unlike with Crowe, where the green briquettes have to be dried, the applicants' agglomerate is compacted dry.

In contrast to prior inventions, Applicants' invention combines the components dry. A very small amount of water is utilized, where the water is not sufficient to wet out even the pulverized paper. For instance , in Example 1, page 12, 1 part of paper and 1 part of water are used in combination with approximately 80 parts of iron bearing material and 20 parts of pulverized coal. The components are dry mixed and compacted into briquettes under very high pressure. The high pressure brings the components into close contact, and porosity is low.

Several advantages arise from using a dry composition and a high pressure process. Very low water enables the compacts to be immediately heated to very high temperatures without forming steam pockets that can create internal pressure that could weaken if not blow apart the briquettes. High pressure and low water creates a briquette of low porosity and therefore a relatively higher density. Increased porosity is known in the art to produce briquettes having poor heat transfer. Poor heat transfer slows down the metallization reaction. The reductant is in situ with the iron oxide, so reducing gases does not need to reach the interior of the briquette for metallization. Since the penetration of the DRI gases is not necessary for reduction because the reductant is uniformly distributed throughout, the reaction takes place quicker and more uniformly.

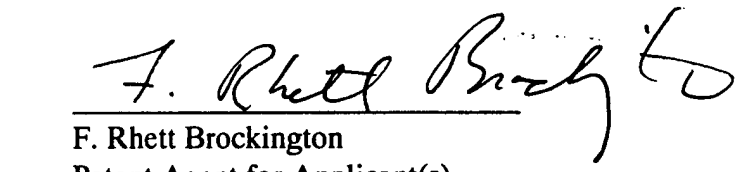
Since the amendment to the claims adds more claims than previously paid for, the appropriate additional fee is appended.

In view of the foregoing Amendment and these Remarks, this Application is now believed to be in condition for allowance and such favorable action is respectfully requested on behalf of Applicant(s).

Attached hereto is a marked-up version of the changes made to the specification and

claims by the current amendment. The attached page is captioned "**Version With Marking to Show Changes Made**".

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Claim 1 has been amended as follows:

1. (Amended) A process for making ~~a strong~~ metallized ~~of~~ iron by reduction of an iron oxide containing agglomerate, said process comprising: ~~by~~

combining in a dry form iron bearing materials, a reductant, and cellulose fiber with up to15% water to form a mixture~~,~~ ;

compacting ~~forming~~ the mixture into the ~~an~~ agglomerate ~~,~~ ; and

heating the agglomerate at a temperature of from about 1000°C to about 1550°C for a period of 6 to 20 minutes.

Claims 7 - 10 have been amended as follows:

7. (Amended) A process according to claim 1 wherein the agglomerate~~s are~~ is initially heated in an oxidizing atmosphere, followed by further heating in an inert or reducing atmosphere.

8. (Amended) A process according to claim 1, further comprising adding steel alloy materials to the agglomerate; and introducing said agglomerate~~s~~ into a steelmaking furnace ~~as iron-bearing feed material~~.

9. (Amended) A process according to claim 8~~1, further comprising briquetting~~ wherein said agglomerates is formed into a briquette~~, then introducing said agglomerates into a steelmaking furnace as iron-bearing feed material~~.

10. (Amended) A process according to claim 1, wherein from 0.5 to 15 percent of the iron bearing ~~feed~~ materials are particles ~~are~~ up to 6 mm in size.

Claims 12 - 14 have been amended as follows:

12. (Amended) A process according to claim 1, wherein said cellulose fiber comprises ~~binder addition is~~ 0.5 to 25% of the mixture, where the preferred mixture has 0.5 to 2.0%.

13. (Amended) A process according to claim 1, wherein said agglomerate forms ~~A strong,~~ at least 40% metallized iron~~, agglomerate made by the process of claim 1~~.

14. (Amended) A process for making strong, green agglomerates by dry combining iron bearing materials, a reductant, and a cellulose fiber with up to 15% water, wherein the agglomerates are formed by high pressure compaction.

Claims 18 - 19 have been amended as follows:

18. (Amended) A process according to claim 14, wherein from 0.5 to 15 percent of the iron bearing feed material consists of particles that are up to 6 mm in size.

19. (Amended) A process according to claim 14, wherein said cellulose fiber comprises ~~binder addition is~~ 0.5 to 25% of the mixture, where the preferred mixture has 0.5 to 2.0%.

Claim 21 is added as follows:

21. The composition of an agglomerate, where said agglomerate after being formed

through high pressure compaction is dry and is immediately suitable for metallization in a furnace, wherein said agglomerate is a mixture comprised of:

a.) approximately 70 to 85 parts by weight of finely divided iron bearing materials;

b.) approximately 15 to 25 parts by weight of finely divided carbon based reductant; and

c.) approximately 0.5 to 2 parts by weight of pulverized paper;

d.) approximately 0.5 to 2 parts by weight of water.